Application No.: 09/890,784 Docket No.: 21499-00049-US

LISTING OF CLAIMS WITH STATUS INDICATOR

1. (previously presented) A polymer dispersion prepared according to the following process comprising:

a) providing from 5 to 50% by weight of starch with a degree of substitution from 0.01 to 1 relative to at least one member selected from the group consisting of cationic or anionic substituents and having an intrinsic viscosity of greater than 1.0 dl/g when substituted; and

b) combining the starch with water and 50 to 95% by weight of a monomer mixture comprising at least one vinyl monomer, wherein the percents by weight are based on the solid content of the dispersion, and the film forming temperature of the polymer formed from the monomer mixture is from -50 to 200°C.

2. (previously presented) The polymer dispersion according to claim 1, wherein the degree of substitution of the starch is from 0.04 to 1.0 and the intrinsic viscosity is from 1.5 to 15 dl/g.

3. (previously presented) The polymer dispersion according to claim 1, wherein the film forming temperature is from 10 to 50°.

4. (previously presented) The polymer dispersion according to claim 1, wherein the monomer mixture comprises from 40 to 70% of acrylates and from 30 to 60% of styrene.

5. (previously presented) The polymer dispersion according to claim 1, wherein the dispersion comprises:

from 5 to 50% of starch,
from 0 to 19% of acrylonitrile,
from 10 to 60% of acrylates,
from 10 to 60% of styrene, and water.

6. (previously presented) The polymer dispersion according to claim 5, wherein the dispersion comprises

from 15 to 40%, of starch
from 5 to 19% of acrylonitrile,
from 20 to 50% of acrylates, and

from 20 to 40% of styrene, and water.

7. (previously presented) The polymer dispersion according to claim 1, consisting essentially of

20% of starch with a degree of substitution of about 0.05 and an intrinsic viscosity of from 3 to 15 dl/g,

19% of acrylonitrile,

30% of acrylates,

31% of styrene, and water.

8. (previously presented) The polymer dispersion according to claim 1,

wherein the film forming temperature is from 0 to 70°C.

9. (previously presented) The polymer dispersion according to claim 1,

wherein the starch is dissolved in an aqueous alkaline solution at a temperature of over 60°C.

10. (previously presented) The polymer dispersion according to claim 1, wherein the polymer is formed at a temperature from 70 to 90°C and at a pH below 7.

11. (previously presented) The process according to claim 1, wherein the starch is anionized , cationized, or anionized and cationized.

12. (previously presented) The polymer dispersion according to claim 1, wherein the polymer dispersion is used in paper manufacture.

13. (previously presented) The polymer dispersion according to claim 1, wherein the polymer dispersion is used as a surface sizing additive for paper.

14. (previously presented) The polymer dispersion according to claim 1, wherein the polymer dispersion is used as a wet and dry-strengthener for paper which is added to the wet end of the paper machine.

15. (previously presented) The polymer dispersion according to claim 1, wherein the polymer dispersion is used as a pulp size.

16. (previously presented) The polymer dispersion according to claim 1 wherein the film forming temperature is from 20 to 50°C.

17. (previously presented) The polymer dispersion according to claim 2, wherein the monomer mixture comprises from 40 to 70% of acrylates and from 30 to 60% of styrene.

18. (previously presented) The polymer dispersion according to claim 3, wherein the monomer mixture comprises from 40 to 70% of acrylates and from 30 to 60% of styrene.

19. (previously presented) The polymer dispersion according to claim 1, wherein the dispersion comprises:

from 5 to 40% of starch,
from 0 to 19% of acrylonitrile,
from 10 to 60% of acrylates,
from 10 to 60% of styrene, and water.

20. (previously presented) The polymer dispersion according to claim 2, wherein the dispersion comprises:

from 5 to 40% of starch,
from 0 to 19% of acrylonitrile,
from 10 to 60% of acrylates,
from 10 to 60% of styrene, and water.

21. (previously presented) The polymer dispersion according to claim 1, wherein the starch accounts for 5 to 40% of the solids content, and the monomer mixture accounts for 60 to 95% of the solids content.

22. (previously presented) The polymer dispersion according to claim 1, wherein the film forming temperature is selected from a temperature in a temperature range selected from the group consisting of 0 to 100°C, 0 to 70°C, and 10 to 50°C.

23. (previously presented) The polymer dispersion according to claim 22, wherein the temperature range is 0 to 70°C.

24. (previously presented) The polymer dispersion according to claim 8, wherein the film forming temperature is from 10 to 50°C.

25. (previously presented) The polymer dispersion according to claim 1, wherein the starch is cationized and is prepared by contacting native starch with a cationizing chemical containing a quaternary nitrogen.

26. (previously presented) The polymer dispersion according to claim 25, wherein the cationizing chemical is a 1,3-epoxy quaternary or 1,3 hydrochloride.

27. (previously presented) The polymer dispersion according to claim 6, wherein the starch is cationized and is prepared by contacting native starch with a cationizing chemical containing a quaternary nitrogen.

28. (previously presented) The polymer dispersion according to claim 1, wherein the starch is cationized to provide a degree of substitution from 0.01 to 0.08.

29. (previously presented) The polymer dispersion according to claim 1, wherein the starch is cationized to provide a degree of substitution from 0.1 to 0.5.

30. (previously presented) The polymer dispersion according to claim 6, wherein the degree of substitution of the starch is from 0.04 to 1.0 and the intrinsic viscosity is from 1.5 to 15 dl/g.